DWIGHT P.WILLIAMS Signature SERIES 1% x 3%

SECTION 1: IDENTIFICATION

1.1 GHS Product identifier: DWIGHT P.WILLIAMS Signature SERIES 1% x 3%

1.2 Recommended use of the chemical and restrictions on use:

Relevant uses: Fire-extinguishing. For professional user only.

Uses advised against: All uses not specified in this section or in section 7.3

1.3 Name, address, and telephone number of the chemical manufacturer, importer, or other responsible party:

AUXQUIMIA, S.A.U.
Polígono Industrial de Baiña, parcela 23
33682 Baiña (Mieres) - Asturias - Spain
Phone.: +34 985 242 945 / +34 985 242 946 - Fax: +34 985 253 809
sds@perimeter-solutions.com
www.auxquimia.com

1.4 Emergency phone number: +34 985 242 945 / +34 985 242 946

SECTION 2: HAZARD(S) IDENTIFICATION

2.1 Classification of the substance or mixture:

29 CFR 1910.1200:

Classification of this product has been carried out in accordance with paragraph (d) of § 1910.1200.

Eye Dam. 1: Serious eye damage, Category 1, H318
Skin Sens. 1: Sensitisation, skin, Category 1, H317

2.2 Label elements:

29 CFR 1910.1200:

Danger

Hazard statements:

Eye Dam. 1: H318 - Causes serious eye damage
Skin Sens. 1: H317 - May cause an allergic skin reaction

Precautionary statements:

P261: Avoid breathing dust/fume/gas/mist/vapours/spray
P280: Wear protective gloves/protective clothing/eye protection/face protection
P302+P352: IF ON SKIN: Wash with plenty of soap and water
P305+P351+P338: IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing
P310: Immediately call a poison center/doctor
P501: Dispose of contents and / or containers in accordance with regulations on hazardous waste or packaging and packaging waste respectively

Substances that contribute to the classification

N-(2-hydroxyethyl)-N-[2-[(1-oxooctyl)amino]ethyl]-β-alanine; Alkylglucoside C8; (carboxymethyl)dimethyl-3-[(1-oxododecyl) amino]propylammonium hydroxide

2.3 Other hazards which do not result in classification:

Non-applicable

SECTION 3: COMPOSITION/INFORMATION ON INGREDIENTS

3.1 Substances:

Non-applicable

3.2 Mixtures:

Chemical description: Aqueous solution of tensoactives

Components:

- CONTINUED ON NEXT PAGE -

SECTION 3: COMPOSITION/INFORMATION ON INGREDIENTS (continued)

Remaining components are non-hazardous and/or present at amounts below reportable limits. Exact percentage values for components are proprietary in accordance with 29 CFR 1910.1200(i).Therefore, in accordance with Appendix D to § 1910.1200, the product contains:

Identification	Chemical name/Classification	Concentration
CAS: 112-34-5	**2-(2-butoxyethoxy)ethanol** Eye Irrit. 2: H319; Flam. Liq. 4: H227 - Warning	5 - <15 %
CAS: 107-21-1	**Ethanediol** Acute Tox. 4: H302 - Warning	2 - <7 %
CAS: Non-applicable	**Mixture of fluorosurfactants**	2 - <6 %
CAS: 64265-45-8	**N-(2-hydroxyethyl)-N-[2-[(1-oxooctyl)amino]ethyl]-β-alanine** Eye Irrit. 2: H319; Skin Sens. 1: H317 - Warning	0,5 - <5 %
CAS: Non-applicable	**Mixture of fluorotelomers**	0,5 - <3 %
CAS: Non-applicable	**Alkylglucoside C8** Eye Dam. 1: H318 - Danger	0,5 - <2 %
CAS: 4292-10-8	**(carboxymethyl)dimethyl-3-[(1-oxododecyl)amino]propylammonium hydroxide** Eye Dam. 1: H318 - Danger	0,1 - <1 %
CAS: 11138-66-2	**Xanthan gum**	0,1 - <1 %

To obtain more information on the hazards of the substances consult sections 8, 11, 12, 15 and 16.

SECTION 4: FIRST AID MEASURES

4.1 Description of necessary measures:

The symptoms resulting from intoxication can appear after exposure, therefore, in case of doubt, seek medical attention for direct exposure to the chemical product or persistent discomfort, showing the SDS of this product.

By inhalation:

This product does not contain substances classified as hazardous for inhalation, however, in case of symptoms of intoxication remove the person affected from the exposure area and provide with fresh air. Seek medical attention if the symptoms get worse or persist.

By skin contact:

Remove contaminated clothing and footwear, rinse skin or shower the person affected if appropriate with plenty of cold water and neutral soap. In serious cases see a doctor. If the product causes burns or freezing, clothing should not be removed as this could worsen the injury caused if it is stuck to the skin. If blisters form on the skin, these should never be burst as this will increase the risk of infection.

By eye contact:

Rinse eyes thoroughly with lukewarm water for at least 15 minutes. Do not allow the person affected to rub or close their eyes. If the injured person uses contact lenses, these should be removed unless they are stuck to the eyes, as this could cause further damage. In all cases, after cleaning, a doctor should be consulted as quickly as possible with the SDS of the product.

By ingestion/aspiration:

Do not induce vomiting, but if it does happen keep the head down to avoid aspiration. Keep the person affected at rest. Rinse out the mouth and throat, as they may have been affected during ingestion.

4.2 Most important symptoms/effects, acute and delayed:

Acute and delayed effects are indicated in sections 2 and 11.

4.3 Indication of immediate medical attention and special treatment needed, if necessary:

Non-applicable

SECTION 5: FIRE-FIGHTING MEASURES

5.1 Suitable (and unsuitable) extinguishing media:

Product is non-flammable under normal conditions of storage, manipulation and use, but the product contains flammable substances. In the case of inflammation as a result of improper manipulation, storage or use preferably use polyvalent powder extinguishers (ABC powder), in accordance with the Regulation on fire protection systems. IT IS NOT RECOMMENDED to use tap water as an extinguishing agent.

- CONTINUED ON NEXT PAGE -

SECTION 5: FIRE-FIGHTING MEASURES (continued)

5.2 Specific hazards arising from the chemical:

As a result of combustion or thermal decomposition reactive sub-products are created that can become highly toxic and, consequently, can present a serious health risk.

5.3 Special protective equipment and precautions for fire-fighters:

Depending on the magnitude of the fire it may be necessary to use full protective clothing and individual respiratory equipment. Minimum emergency facilities and equipment should be available (fire blankets, portable first aid kit,...)

Additional provisions:

As in any fire, prevent human exposure to fire, smoke, fumes or products of combustion. Only properly trained personnel should be involved in firefighting. Evacuate nonessential personnel from the fire area. Destroy any source of ignition. In case of fire, refrigerate the storage containers and tanks for products susceptible to inflammation. Avoid spillage of the products used to extinguish the fire into an aqueous medium.

SECTION 6: ACCIDENTAL RELEASE MEASURES

6.1 Personal precautions, protective equipment and emergency procedures:

Isolate leaks provided that there is no additional risk for the people performing this task. Personal protection equipment must be used against potential contact with the spilt product (See section 8). Evacuate the area and keep out those who do not have protection.

6.2 Environmental precautions:

This product is not classified as hazardous to the environment. Keep product away from drains, surface and underground water.

6.3 Methods and materials for containment and cleaning up:

It is recommended:

Absorb the spillage using sand or inert absorbent and move it to a safe place. Do not absorb in sawdust or other combustible absorbents. For any concern related to disposal consult section 13.

6.4 Reference to other sections:

See sections 8 and 13.

SECTION 7: HANDLING AND STORAGE

7.1 Precautions for safe handling:

A.- Precautions for safe manipulation

Comply with the current standards 29 CFR 1910 Occupational Safety and Health Standards. Keep containers hermetically sealed. Control spills and residues, destroying them with safe methods (section 6). Avoid leakages from the container. Maintain order and cleanliness where dangerous products are used.

B.- Technical recommendations for the prevention of fires and explosions

Product is non-flammable under normal conditions of storage, manipulation and use. It is recommended to transfer at slow speeds to avoid the generation of electrostatic charges that can affect flammable products. Consult section 10 for information on conditions and materials that should be avoided.

C.- Technical recommendations to prevent ergonomic and toxicological risks

Do not eat or drink during the process, washing hands afterwards with suitable cleaning products.

D.- Technical recommendations to prevent environmental risks

It is recommended to have absorbent material available at close proximity to the product (See subsection 6.3)

7.2 Conditions for safe storage, including any incompatibilities:

A.- Technical measures for storage

Minimum Temp.: 32 ºF

Maximum Temp.: 120.2 ºF

B.- General conditions for storage

Avoid sources of heat, radiation, static electricity and contact with food. For additional information see subsection 10.5

7.3 Specific end use(s):

Except for the instructions already specified it is not necessary to provide any special recommendation regarding the uses of this product.

- CONTINUED ON NEXT PAGE -

SECTION 8: EXPOSURE CONTROLS/PERSONAL PROTECTION

8.1 Control parameters:

Substances whose occupational exposure limits have to be monitored in the work environment

There are no occupational exposure limits for the substances contained in the product

8.2 Appropriate engineering controls:

A.- Individual protection measures, such as personal protective equipment

If product is used at the concentration dosing conditions specified in the relevant instructions for use (section 15), personal protective equipment described in section 8.2 for UNDILUTED products will not be required.

Safe handling recommendations for undiluted product:

As a preventative measure it is recommended to use basic Personal Protection Equipment. For more information on Personal Protection Equipment (storage, use, cleaning, maintenance, class of protection,...) consult the information leaflet provided by the manufacturer. For more information see subsection 7.1. All information contained herein is a recommendation, the information on clothing performance must be combined with professional judgment, and a clear understanding of the clothing application, to provide the best protection to the worker. All chemical protective clothing use must be based on a hazard assessment to determine the risks for exposure to chemicals and other hazards. Conduct hazard assessments in accordance with 29 CFR 1910.132.

B.- Respiratory protection

Pictogram	PPE	Remarks
 Mandatory respiratory tract protection	Filter mask for gases and vapours	Replace when there is a taste or smell of the contaminant inside the face mask. If the contaminant comes with warnings it is recommended to use isolation equipment. Use respirator in accordance with manufacturer´s use limitations and OSHA standard 1910.134 (29CFR)

C.- Specific protection for the hands

Pictogram	PPE	Remarks
 Mandatory hand protection	Protective gloves against minor risks	Replace gloves in case of any sign of damage. For prolonged periods of exposure to the product for professional /industrial users, we recommend using chemical protection gloves. Use gloves in accordance with manufacturer´s use limitations and OSHA standard 1910.138 (29CFR)

As the product is a mixture of several substances, the resistance of the glove material can not be calculated in advance with total reliability and has therefore to be checked prior to the application

D.- Ocular and facial protection

Pictogram	PPE	Remarks
 Mandatory face protection	Panoramic glasses against splash/projections.	Clean daily and disinfect periodically according to the manufacturer´s instructions. Use if there is a risk of splashing. Use this PPE in accordance with manufacturer´s use limitations and OSHA standard 1910.133 (29CFR)

E.- Bodily protection

Pictogram	PPE	Remarks
	Work clothing	Replace before any evidence of deterioration.
	Anti-slip work shoes	Replace before any evidence of deterioration.

F.- Additional emergency measures

Emergency measure	Standards	Emergency measure	Standards
 Emergency shower	ANSI Z358-1 ISO 3864-1:2002	 Eyewash stations	DIN 12 899 ISO 3864-1:2002

- CONTINUED ON NEXT PAGE -

SECTION 8: EXPOSURE CONTROLS/PERSONAL PROTECTION (continued)

Environmental exposure controls:

In accordance with the community legislation for the protection of the environment it is recommended to avoid environmental spillage of both the product and its container. For additional information see subsection 7.1.D

SECTION 9: PHYSICAL AND CHEMICAL PROPERTIES

9.1 Information on basic physical and chemical properties:

For complete information see the product datasheet.

Appearance:	
Physical state at 68 °F:	Liquid
Appearance:	Viscous
Color:	Yellowish
Odor:	Characteristic
Odour threshold:	Non-applicable *
Volatility:	
Boiling point at atmospheric pressure:	Non-applicable *
Vapour pressure at 68 °F:	Non-applicable *
Vapour pressure at 122 °F:	Non-applicable *
Evaporation rate at 68 °F:	Non-applicable *
Product description:	
Density at 68 °F:	1020 - 1060 kg/m³
Relative density at 68 °F:	Non-applicable *
Dynamic viscosity at 68 °F:	105 cP
Kinematic viscosity at 68 °F:	Non-applicable *
Kinematic viscosity at 104 °F:	>20.5 cSt
Concentration:	Non-applicable *
pH:	6.5 - 7.5
Vapour density at 68 °F:	Non-applicable *
Partition coefficient n-octanol/water 68 °F:	Non-applicable *
Solubility in water at 68 °F:	Non-applicable *
Solubility properties:	Highly soluble
Decomposition temperature:	Non-applicable *
Melting point/freezing point:	Non-applicable *
Explosive properties:	Non-applicable *
Oxidising properties:	Non-applicable *
Flammability:	
Flash Point:	Non Flammable (>199.4 °F)
Flammability (solid, gas):	Non-applicable *
Autoignition temperature:	Non-applicable *
Lower flammability limit:	Non-applicable *
Upper flammability limit:	Non-applicable *
Explosive:	
Lower explosive limit:	Non-applicable *
Upper explosive limit:	Non-applicable *

9.2 Other information:

*Not relevant due to the nature of the product, not providing information property of its hazards.

- CONTINUED ON NEXT PAGE -

SECTION 9: PHYSICAL AND CHEMICAL PROPERTIES (continued)

Surface tension at 68 ºF:	Non-applicable *
Refraction index:	Non-applicable *

*Not relevant due to the nature of the product, not providing information property of its hazards.

SECTION 10: STABILITY AND REACTIVITY

10.1 Reactivity:

No hazardous reactions are expected because the product is stable under recommended storage conditions. See section 7.

10.2 Chemical stability:

Chemically stable under the conditions of storage, handling and use.

10.3 Possibility of hazardous reactions:

Under the specified conditions, hazardous reactions that lead to excessive temperatures or pressure are not expected.

10.4 Conditions to avoid:

Applicable for handling and storage at room temperature:

Shock and friction	Contact with air	Increase in temperature	Sunlight	Humidity
Not applicable	Not applicable	Precaution	Precaution	Not applicable

10.5 Incompatible materials:

Acids	Water	Combustive materials	Combustible materials	Others
Avoid strong acids	Not applicable	Not applicable	Not applicable	Avoid alkalis or strong bases

10.6 Hazardous decomposition products:

See subsection 10.3, 10.4 and 10.5 to find out the specific decomposition products. Depending on the decomposition conditions, complex mixtures of chemical substances can be released: carbon dioxide (CO2), carbon monoxide and other organic compounds.

SECTION 11: TOXICOLOGICAL INFORMATION

11.1 Information on toxicological effects:

The experimental information related to the toxicological properties of the product itself is not available

Contains glycols. With possibility of effects that are hazardous to the health, it is recommended not to breathe the vapours for long periods of time.

Dangerous health implications:

In case of exposure that is repetitive, prolonged or at concentrations higher than recommended by the occupational exposure limits, it may result in adverse effects on health depending on the means of exposure:

A- Ingestion (acute effect):

- Acute toxicity : Based on available data, the classification criteria are not met, however, it contains substances classified as dangerous for consumption. For more information see section 3.
- Corrosivity/Irritability: Based on available data, the classification criteria are not met, as it does not contain substances classified as dangerous for this effect. For more information see section 3.

B- Inhalation (acute effect):

- Acute toxicity : Based on available data, the classification criteria are not met, as it does not contain substances classified as dangerous for inhalation. For more information see section 3.
- Corrosivity/Irritability: Based on available data, the classification criteria are not met, as it does not contain substances classified as dangerous for this effect. For more information see section 3.

C- Contact with the skin and the eyes (acute effect):

- Contact with the skin: Based on available data, the classification criteria are not met, as it does not contain substances classified as dangerous for skin contact. For more information see section 3.
- Contact with the eyes: Produces serious eye damage after contact.

D- CMR effects (carcinogenicity, mutagenicity and toxicity to reproduction):

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SECTION 11: TOXICOLOGICAL INFORMATION (continued)

- Carcinogenicity: Based on available data, the classification criteria are not met, as it does not contain substances classified as dangerous for the effects mentioned. For more information see section 3.
- Mutagenicity: Based on available data, the classification criteria are not met, as it does not contain substances classified as dangerous for this effect. For more information see section 3.
- Reproductive toxicity: Based on available data, the classification criteria are not met, as it does not contain substances classified as dangerous for this effect. For more information see section 3.

E- Sensitizing effects:

- Respiratory: Based on available data, the classification criteria are not met, as it does not contain substances classified as dangerous with sensitising effects. For more information see section 3.
- Cutaneous: Prolonged contact with the skin can result in episodes of allergic contact dermatitis.

F- Specific target organ toxicity (STOT) - single exposure:

Based on available data, the classification criteria are not met, as it does not contain substances classified as dangerous for this effect. For more information see section 3.

G- Specific target organ toxicity (STOT)-repeated exposure:

- Specific target organ toxicity (STOT)-repeated exposure: Based on available data, the classification criteria are not met, as it does not contain substances classified as dangerous for this effect. For more information see section 3.
- Skin: Based on available data, the classification criteria are not met, as it does not contain substances classified as dangerous for this effect. For more information see section 3.

H- Aspiration hazard:

Based on available data, the classification criteria are not met, as it does not contain substances classified as dangerous for this effect. For more information see section 3.

Other information:

Non-applicable

Specific toxicology information on the substances:

Identification	Acute toxicity		Genus
Alkylglucoside C8	LD50 oral	5100 mg/kg	Rat
CAS: Non-applicable	LD50 dermal	2380 mg/kg	Rat
	LC50 inhalation	Non-applicable	
Ethanediol	LD50 oral	500 mg/kg	Rat
CAS: 107-21-1	LD50 dermal	9530 mg/kg	Rabbit
	LC50 inhalation	Non-applicable	
(carboxymethyl)dimethyl-3-[(1-oxododecyl)amino]propylammonium hydroxide	LD50 oral	5100 mg/kg	Rat
CAS: 4292-10-8	LD50 dermal	Non-applicable	
	LC50 inhalation	Non-applicable	

SECTION 12: ECOLOGICAL INFORMATION

The experimental information related to the eco-toxicological properties of the product itself is not available

12.1 Ecotoxicity (aquatic and terrestrial, where available):

Identification	Acute toxicity		Species	Genus
2-(2-butoxyethoxy)ethanol	LC50	1300 mg/L (96 h)	Lepomis macrochirus	Fish
CAS: 112-34-5	EC50	2850 mg/L (24 h)	Daphnia magna	Crustacean
	EC50	53 mg/L (192 h)	Microcystis aeruginosa	Algae
Ethanediol	LC50	53000 mg/L (96 h)	Pimephales promelas	Fish
CAS: 107-21-1	EC50	51000 mg/L (48 h)	Daphnia magna	Crustacean
	EC50	24000 mg/L (168 h)	Selenastrum capricornutum	Algae
Alkylglucoside C8	LC50	310 mg/L (96 h)	Oncorhynchus mykiss	Fish
CAS: Non-applicable	EC50	Non-applicable		
	EC50	Non-applicable		
(carboxymethyl)dimethyl-3-[(1-oxododecyl)amino] propylammonium hydroxide	LC50	1,9 mg/L (96 h)	Cyprinus carpio	Fish
CAS: 4292-10-8	EC50	1,9 mg/L (48 h)	Daphnia magna	Crustacean
	EC50	Non-applicable		

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SECTION 12: ECOLOGICAL INFORMATION (continued)

12.2 Persistence and degradability:

Identification	Degradability		Biodegradability	
2-(2-butoxyethoxy)ethanol	BOD5	0.25 g O2/g	Concentration	100 mg/L
CAS: 112-34-5	COD	2.08 g O2/g	Period	28 days
	BOD5/COD	0.12	% Biodegradable	92 %
Ethanediol	BOD5	0.47 g O2/g	Concentration	100 mg/L
CAS: 107-21-1	COD	1.29 g O2/g	Period	14 days
	BOD5/COD	0.36	% Biodegradable	90 %
(carboxymethyl)dimethyl-3-[(1-oxododecyl)amino] propylammonium hydroxide	BOD5	Non-applicable	Concentration	100 mg/L
CAS: 4292-10-8	COD	Non-applicable	Period	28 days
	BOD5/COD	Non-applicable	% Biodegradable	95 %

12.3 Bioaccumulative potential:

Identification	Bioaccumulation potential	
2-(2-butoxyethoxy)ethanol	BCF	0.46
CAS: 112-34-5	Pow Log	0.56
	Potential	Low
Ethanediol	BCF	10
CAS: 107-21-1	Pow Log	-1.36
	Potential	Low

12.4 Mobility in soil:

Identification	Absorption/desorption		Volatility	
2-(2-butoxyethoxy)ethanol	Koc	48	Henry	7.2E-9 Pa·m³/mol
CAS: 112-34-5	Conclusion	Very High	Dry soil	No
	Surface tension	3.395E-2 N/m (77 °F)	Moist soil	No
Ethanediol	Koc	0	Henry	1.327E-1 Pa·m³/mol
CAS: 107-21-1	Conclusion	Very High	Dry soil	No
	Surface tension	4.989E-2 N/m (77 °F)	Moist soil	No
(carboxymethyl)dimethyl-3-[(1-oxododecyl)amino] propylammonium hydroxide	Koc	3063	Henry	Non-applicable
CAS: 4292-10-8	Conclusion	Low	Dry soil	Non-applicable
	Surface tension	Non-applicable	Moist soil	Non-applicable

12.5 Results of PBT and vPvB assessment:

Non-applicable

12.6 Other adverse effects:

Not described

SECTION 13: DISPOSAL CONSIDERATIONS

13.1 Disposal methods:

Waste management (disposal and evaluation):

Consult the authorized waste service manager on the assessment and disposal operations. In case the container has been in direct contact with the product, it will be processed the same way as the actual product. Otherwise, it will be processed as non-dangerous residue. We do not recommended disposal down the drain. See epigraph 6.2.

Regulations related to waste management:

Legislation related to waste management:

40 CFR Part 261- IDENTIFICATION AND LISTING OF HAZARDOUS WASTE

SECTION 14: TRANSPORT INFORMATION

This product is not regulated for transport.

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SECTION 15: REGULATORY INFORMATION

15.1 Safety, health and environmental regulations specific for the product in question:

SARA Title III - Toxic Chemical Release Inventory Reporting (Section 313): 2-(2-butoxyethoxy)ethanol ; Ethanediol
California Proposition 65 (the Safe Drinking Water and Toxic Enforcement Act of 1986): Ethanediol
The Toxic Substances Control Act (TSCA) : 2-(2-butoxyethoxy)ethanol ; Ethanediol ; N-(2-hydroxyethyl)-N-[2-[(1-oxooctyl)amino] ethyl]-β-alanine ; Xanthan gum
Massachusetts RTK - Substance List: Ethanediol
New Jersey Worker and Community Right-to-Know Act: Ethanediol
New York RTK - Substance list: Ethanediol
Pennsylvania Worker and Community Right-to-Know Law: Ethanediol
NTP (National Toxicology Program): Non-applicable
Hazardous substances release notification under CERCLA sections 102-103 (40 CFR Part 302): Ethanediol (5000 pounds)

Specific provisions in terms of protecting people or the environment:

It is recommended to use the information included in this safety data sheet as data used in a risk evaluation of the local circumstances in order to establish the necessary risk prevention measures for the manipulation, use, storage and disposal of this product.

Relevant instructions for use:

This product is intended for the production of low and medium expansion foam for fire extinguishing purposes. For this purpose it should be diluted in water and used with appropriate foam-generating equipment. Use at 1% on hydrocarbon and 3% on polar solvent fires.

Other legislation:

The Toxic Substances Control Act (TSCA)
SARA Title III - Community Right-to-Know Reporting Requirements (Sections 311-312)
SARA Title III - Toxic Chemical Release Inventory Reporting (Section 313)
Emergency Planning and Community Right-to-Know Act (EPCRA) Reportable Quantities

SECTION 16: OTHER INFORMATION

Legislation related to safety data sheets:

This safety data sheet has been designed in accordance with Appendix d to §1910.1200 – Safety data sheets

Texts of the legislative phrases mentioned in section 2:

H318: Causes serious eye damage
H317: May cause an allergic skin reaction

Texts of the legislative phrases mentioned in section 3:

The phrases indicated do not refer to the product itself; they are present merely for informative purposes and refer to the individual components which appear in section 3

29 CFR 1910.1200:

Acute Tox. 4: H302 - Harmful if swallowed
Eye Dam. 1: H318 - Causes serious eye damage
Eye Irrit. 2: H319 - Causes serious eye irritation
Flam. Liq. 4: H227 - Combustible liquid
Skin Sens. 1: H317 - May cause an allergic skin reaction

Advice related to training:

Minimal training is recommended to prevent industrial risks for staff using this product, in order to facilitate their comprehension and interpretation of this safety data sheet, as well as the label on the product.

Principal bibliographical sources:

Occupational Safety & Health Administration (OSHA).

Abbreviations and acronyms:

IMDG: International maritime dangerous goods code
IATA: International Air Transport Association
ICAO: International Civil Aviation Organisation
COD: Chemical Oxygen Demand
BOD5: 5-day biochemical oxygen demand
BCF: Bioconcentration factor
LD50: Lethal Dose 50
CL50: Lethal Concentration 50
EC50: Effective concentration 50
Log-POW: Octanol-water partition coefficient
Koc: Partition coefficient of organic carbon

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END OF SAFETY DATA SHEET

Safety Data Sheet

This safety data sheet complies with the requirements of: 2012 OSHA Hazard Communication Standard (29CFR 1910.1200)

Product name ANSULITE 3x3 AR-AFFF LV (A334-LV)

1. Identification

1.1. Product Identifier

Product name	ANSULITE 3x3 AR-AFFF LV (A334-LV)

1.2. Other means of identification

Product code	442865
Synonyms	None
Chemical Family	No information available

1.3. Recommended use of the chemical and restrictions on use

Recommended use	Fire extinguishing agent.
Uses advised against	Consumer use.

1.4. Details of the Supplier of the Safety Data Sheet

Company Name	Tyco Fire Protection Products One Stanton Street Marinette, WI 54143-2542 Telephone: 715-735-7411
Contact point	Product Stewardship at 1-715-735-7411
E-mail address	psra@tycofp.com

1.5. Emergency Telephone Number

Emergency telephone	CHEMTREC 001-800-424-9300 or 001-703-527-3887

2. Hazards Identification

Classification

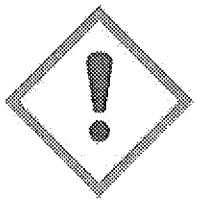
This chemical is considered hazardous by the 2012 OSHA Hazard Communication Standard (29 CFR 1910.1200)

Serious eye damage/eye irritation - Category 2A

2.2. Label Elements

Signal Word
WARNING

Hazard Statements
Causes serious eye irritation



Precautionary Statements

Prevention
Wash face, hands and any exposed skin thoroughly after handling. Wear eye/face protection.

IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. If eye irritation persists: Get medical advice/attention.

2.3. Hazards Not Otherwise Classified (HNOC)
Not Applicable.

2.4. Other information

3. Composition/information on Ingredients

3.1. Mixture
The following component(s) in this product are considered hazardous under applicable OSHA(USA)

Chemical name	CAS No.	weight-%
2-(2-Butoxyethoxy)ethanol	112-34-5	7 - 13
D-Glucopyranoside, C9-C11 Oligomer	132778-08-6	1 - 5

4. First aid measures

4.1. Description of first aid measures
Eye Contact Rinse thoroughly with plenty of water for at least 15 minutes, lifting lower and upper eyelids. Consult a physician.

Skin contact Wash skin with soap and water. Get medical attention if irritation develops and persists.

Inhalation Remove to fresh air. If breathing is difficult, give oxygen. (Get medical attention immediately if symptoms occur.).

Ingestion Rinse mouth. Do not induce vomiting without medical advice. If swallowed, call a poison control center or physician immediately.

4.2. Most Important Symptoms and Effects, Both Acute and Delayed
Symptoms No information available.

4.3. Indication of Any Immediate Medical Attention and Special Treatment Needed
Note to physicians Treat symptomatically.

5. Fire-fighting measures

5.1. Suitable Extinguishing Media
Use extinguishing measures that are appropriate to local circumstances and the surrounding environment.

5.2. Unsuitable Extinguishing Media
None.

5.3. Specific Hazards Arising from the Chemical
None known.

Hazardous Combustion Products	Carbon oxides, Fluorinated oxides, Nitrogen oxides (NOx), Oxides of sulfur

5.4. Explosion Data

Sensitivity to Mechanical Impact None.
Sensitivity to Static Discharge None.

5.5. Protective Equipment and Precautions for Firefighters

As in any fire, wear self-contained breathing apparatus pressure-demand, MSHA/NIOSH (approved or equivalent) and full protective gear.

6. Accidental release measures

6.1. Personal precautions, protective equipment and emergency procedures

Personal Precautions	Ensure adequate ventilation, especially in confined areas.
For emergency responders	Use personal protection recommended in Section 8.

6.2. Environmental Precautions

Environmental Precautions	Prevent further leakage or spillage if safe to do so. Prevent entry into waterways, sewers, basements or confined areas. See Section 12 for additional Ecological Information.

6.3. Methods and material for containment and cleaning up

Methods for Containment	Prevent further leakage or spillage if safe to do so.
Methods for Cleaning Up	Pick up and transfer to properly labeled containers.

7. Handling and Storage

7.1. Precautions for Safe Handling

Advice on safe handling	Avoid contact with skin and eyes. Handle in accordance with good industrial hygiene and safety practice.

7.2. Conditions for safe storage, including any incompatibilities

Storage Conditions	Keep containers tightly closed in a dry, cool and well-ventilated place.
Incompatible Materials	Strong oxidizing agents. Strong acids. Strong bases.

8. Exposure Controls/Personal Protection

8.1. Control Parameters

Exposure guidelines

Chemical name	ACGIH TLV	OSHA PEL	NIOSH IDLH	Mexico OEL
2-(2-Butoxyethoxy)ethanol 112-34-5	TWA: 10 ppm inhalable fraction and vapor	-	-	-

ACGIH (American Conference of Governmental Industrial Hygienists) OSHA (Occupational Safety and Health Administration of the US Department of Labor) NIOSH IDLH Immediately Dangerous to Life or Health

8.2. Appropriate Engineering Controls

Engineering controls	Ensure adequate ventilation, especially in confined areas.

8.3. Individual protection measures, such as personal protective equipment

Eye/Face Protection	Avoid contact with eyes. Tight sealing safety goggles.
Skin and Body Protection	Wear protective gloves and protective clothing.
Respiratory Protection	If exposure limits are exceeded or irritation is experienced, NIOSH/MSHA approved respiratory protection should be worn. Positive-pressure supplied air respirators may be required for high airborne contaminant concentrations. Respiratory protection must be provided in accordance with current local regulations.
Ventilation	Use local exhaust or general dilution ventilation to control exposure with applicable limits

8.4. General hygiene considerations

Do not eat, drink or smoke when using this product. Handle in accordance with good industrial hygiene and safety practice.

9. Physical and Chemical Properties

9.1. Information on basic physical and chemical properties

Physical State	Liquid		
Odor	Characteristic	**Color**	Light yellow
Odor Threshold	No data available		

Property	Values	Remarks • Method
pH	7	
Melting point/freezing point	No data available	
Boiling point / boiling range	100 °C / 212 °F	
Flash Point	> 100 °C / > 212 °F	
Evaporation Rate	No data available	
Flammability (solid, gas)	No data available	
Flammability limit in air		
Upper flammability limit:	No data available	
Lower flammability limit:	No data available	
Vapor Pressure	No data available	
Vapor Density	No data available	
Specific gravity	No data available	
Water Solubility	No data available	
Solubility in Other Solvents	No data available	
Partition coefficient	No data available	
Autoignition Temperature	No data available	
Decomposition Temperature	No data available	
Kinematic viscosity	No data available	
VOC content (%)	15.42887	
Density	1.01	

10. Stability and Reactivity

10.1. Chemical Stability

Stable under recommended storage conditions.

10.2. Reactivity

No data available

10.3. Possibility of hazardous reactions

None under normal processing.

Hazardous Polymerization Hazardous polymerization does not occur.

10.4. Conditions to Avoid

Extremes of temperature and direct sunlight.

10.5. Incompatible Materials

Strong oxidizing agents. Strong acids. Strong bases.

10.6. Hazardous decomposition products

Carbon oxides. Nitrogen oxides (NOx). Oxides of sulfur. Fluorinated oxides.

11. Toxicological Information

11.1. Information on Likely Routes of Exposure

Product information

Inhalation No data available.

Eye Contact Severely irritating to eyes.

Skin contact No data available.

Ingestion No data available.

Component Information

Acute Toxicity

Chemical name	Oral LD50	Dermal LD50	Inhalation LC50
2-(2-Butoxyethoxy)ethanol 112-34-5	= 5660 mg/kg (Rat)	= 2700 mg/kg (Rabbit)	-

11.2. Information on Toxicological Effects

Symptoms No information available.

11.3. Delayed and immediate effects as well as chronic effects from short and long-term exposure

Serious eye damage/eye irritation Severely irritating to eyes.
Carcinogenicity No information available.
Reproductive Toxicity No information available.
STOT - Single Exposure No information available.
STOT - Repeated Exposure No information available.
Aspiration Hazard No information available.

11.4. Numerical Measures of Toxicity - Product Information

The following values are calculated based on chapter 3.1 of the GHS document

ATEmix (oral)	22171 mg/kg
ATEmix (dermal)	23945 mg/kg

12. Ecological Information

12.1. Ecotoxicity

Chemical name	Algae/aquatic plants	Fish	Crustacea
2-(2-Butoxyethoxy)ethanol 112-34-5	EC50 (96h) > 100 mg/L Desmodesmus subspicatus	LC50 (96h) static = 1300 mg/L Lepomis macrochirus	EC50 (48h) > 100 mg/L Daphnia magna EC50 (24h) = 2850 mg/L Daphnia magna
1,2-Propanediol 57-55-6	EC50 (96h) = 19000 mg/L Pseudokirchneriella subcapitata	LC50 (96h) static = 51600 mg/L Oncorhynchus mykiss LC50 (96h) static = 51400 mg/L Pimephales promelas LC50 (96h) = 710 mg/L Pimephales promelas LC50 (96h) static 41 - 47 mL/L Oncorhynchus mykiss	EC50 (48h) Static > 1000 mg/L Daphnia magna EC50 (24h) > 10000 mg/L Daphnia magna
n-Butanol 71-36-3	EC50 (96h) > 500 mg/L Desmodesmus subspicatus EC50 (72h) > 500 mg/L Desmodesmus subspicatus	LC50 (96h) static = 1910000 µg/L Pimephales promelas LC50 (96h) static 1730 - 1910 mg/L Pimephales promelas LC50 (96h) flow-through = 1740 mg/L Pimephales promelas LC50 (96h) static 100000 - 500000 µg/L Lepomis macrochirus	EC50 (48h) Static 1897 - 2072 mg/L Daphnia magna EC50 (48h) = 1983 mg/L Daphnia magna
Sodium chloride 7647-14-5	-	LC50 (96h) flow-through 4747 - 7824 mg/L Oncorhynchus mykiss LC50 (96h) semi-static = 7050 mg/L Pimephales promelas LC50 (96h) static = 12946 mg/L Lepomis macrochirus LC50 (96h) static 6020 - 7070 mg/L Pimephales promelas LC50 (96h) flow-through 5560 - 6080 mg/L Lepomis macrochirus LC50 (96h) static 6420 - 6700 mg/L Pimephales promelas	EC50 (48h) Static 340.7 - 469.2 mg/L Daphnia magna EC50 (48h) = 1000 mg/L Daphnia magna
Glycerol 56-81-5	-	LC50 (96h) static 51 - 57 mL/L Oncorhynchus mykiss	EC50 (24h) > 500 mg/L Daphnia magna
Sodium Hydrogen Carbonate 144-55-8	EC50 (120h) = 650 mg/L Nitzschia linearis	LC50 (96h) static 8250 - 9000 mg/L Lepomis macrochirus	EC50 (48h) = 2350 mg/L Daphnia magna
Hexamethylenetetramine 100-97-0	-	LC50 (96h) flow-through 44600 - 55600 mg/L Pimephales promelas	EC50 (48h) 29868 - 43390 mg/L Daphnia magna
Methylene chloride 75-09-2	EC50 (72h) > 500 mg/L Pseudokirchneriella subcapitata EC50 (96h) > 500 mg/L Pseudokirchneriella subcapitata	LC50 (96h) static = 193 mg/L Lepomis macrochirus LC50 (96h) flow-through = 193 mg/L Lepomis macrochirus LC50 (96h) static 262 - 855 mg/L Pimephales promelas LC50 (96h) flow-through 140.8 - 277.8 mg/L Pimephales promelas	EC50 (48h) Static 1532 - 1847 mg/L Daphnia magna EC50 (48h) = 190 mg/L Daphnia magna
1,3-Dichloropropene 542-75-6	EC50 (96h) 2.45 - 6.45 mg/L Pseudokirchneriella subcapitata EC50 (72h) 3.12 - 10.5 mg/L Pseudokirchneriella subcapitata	LC50 (96h) semi-static = 4.5 mg/L Oncorhynchus mykiss LC50 (96h) = 2 mg/L Oncorhynchus mykiss LC50 (96h) static 1.52 - 2.68 mg/L Pimephales promelas LC50 (96h) static 5.1 - 6.8 mg/L Lepomis macrochirus LC50 (96h) static 3.1 -	EC50 (48h) Static 0.063 - 0.129 mg/L Daphnia magna EC50 (48h) = 0.09 mg/L Daphnia magna

		4.9 mg/L Oncorhynchus mykiss LC50 (96h) flow-through 0.211 - 0.271 mg/L Pimephales promelas	
4,4'-bis-(sulfostyryl)-biphenyl disodium salt 27344-41-8	EC50 (72h) = 10 mg/L Desmodesmus subspicatus EC50 (96h) 10.0 - 11.0 mg/L Desmodesmus subspicatus	LC50 (96h) static = 76 mg/L Brachydanio rerio	EC50 (48h) = 1000 mg/L Daphnia magna

12.2. Persistence and Degradability

.

Chemical Oxygen Demand (mg/L)

Concentrate	330,000
3% Solution	12,000

Concentrate Biological Oxygen Demand (mg/L)

Biological Oxygen Demand (5 Day)	110000
%BOD/COD	33.33
Biological Oxygen Demand (10 Day)	190000
%BOD/COD	57.58
Biological Oxygen Demand (15 Day)	230000
%BOD/COD	69.7
Biological Oxygen Demand (20 Day)	240000
%BOD/COD	72.73

3% Solution Biological Oxygen Demand (mg/L)

Biological Oxygen Demand (5 Day)	2600
%BOD/COD	21.67
Biological Oxygen Demand (10 Day)	7400
%BOD/COD	61.67
Biological Oxygen Demand (15 Day)	8500
%BOD/COD	70.83
Biological Oxygen Demand (20 Day)	8900
%BOD/COD	74.17

12.3. Bioaccumulation

No information available.

12.4. Other Adverse Effects

No information available

13. Disposal Considerations

13.1. Waste Treatment Methods

Disposal of wastes Disposal should be in accordance with applicable regional, national and local laws and regulations.

Contaminated Packaging Do not reuse container.

14. Transport Information

DOT	NOT REGULATED
TDG	NOT REGULATED
MEX	NOT REGULATED
ICAO (air)	NOT REGULATED
IATA	NOT REGULATED
IMDG	NOT REGULATED

15. Regulatory Information

15.1. International Inventories

TSCA	Complies
DSL/NDSL	Does not comply
ENCS	Does not comply
IECSC	Does not comply
KECL	Does not comply
PICCS	Does not comply
AICS	Complies

Legend:
TSCA - United States Toxic Substances Control Act Section 8(b) Inventory
DSL/NDSL - Canadian Domestic Substances List/Non-Domestic Substances List
ENCS - Japan Existing and New Chemical Substances
IECSC - China Inventory of Existing Chemical Substances
KECL - Korean Existing and Evaluated Chemical Substances
PICCS - Philippines Inventory of Chemicals and Chemical Substances
AICS - Australian Inventory of Chemical Substances

15.2. US Federal Regulations

SARA 313
Section 313 of Title III of the Superfund Amendments and Reauthorization Act of 1986 (SARA). This product contains a chemical or chemicals which are subject to the reporting requirements of the Act and Title 40 of the Code of Federal Regulations, Part 372

Chemical name	SARA 313 - Threshold Values %
2-(2-Butoxyethoxy)ethanol - 112-34-5	1.0

SARA 311/312 Hazard Categories

Acute Health Hazard	Yes
Chronic health hazard	No
Fire Hazard	No
Sudden Release of Pressure Hazard	No
Reactive Hazard	No

CWA (Clean Water Act)
This product does not contain any substances regulated as pollutants pursuant to the Clean Water Act (40 CFR 122.21 and 40 CFR 122.42)

CERCLA
This material, as supplied, does not contain any substances regulated as hazardous substances under the Comprehensive Environmental Response Compensation and Liability Act (CERCLA) (40 CFR 302) or the Superfund Amendments and

Reauthorization Act (SARA) (40 CFR 355). There may be specific reporting requirements at the local, regional, or state level pertaining to releases of this material

15.3. US State Regulations

California Proposition 65

This product contains the following Proposition 65 chemicals

Chemical name	California Proposition 65
Perfluorooctanoic acid - 335-67-1	Developmental Toxicity
Methylene chloride - 75-09-2	Carcinogen
1,3-Dichloropropene - 542-75-6	Carcinogen

U.S. State Right-to-Know Regulations

Chemical name	New Jersey	Massachusetts	Pennsylvania
2-(2-Butoxyethoxy)ethanol 112-34-5	X	-	X
1,2-Propanediol 57-55-6	X	-	X
n-Butanol 71-36-3	X	X	X
Hexamethylenetetramine 100-97-0	X	-	-
Methylene chloride 75-09-2	X	X	X
1,3-Dichloropropene 542-75-6	X	X	X

16. Other information, including date of preparation of the last revision

NFPA	Health Hazards 1	Flammability 1	Instability 0	Physical and chemical properties -
HMIS	Health Hazards 1	Flammability 1	Physical Hazards 0	Personal Protection X

Revision date 17-Jan-2019
Revision note SDS sections updated, 12.

Disclaimer

The information provided in this Safety Data Sheet is correct to the best of our knowledge, information and belief at the date of its publication. The information given is designed only as a guidance for safe handling, use, processing, storage, transportation, disposal and release and is not to be considered a warranty or quality specification. The information relates only to the specific material designated and may not be valid for such material used in combination with any other materials or in any process, unless specified in the text.

End of Safety Data Sheet

Safety Data Sheet

This safety data sheet complies with the requirements of: WHIMS 2015

Product name ANSULITE 3% AFFF (AFC3B)

1. Identification of the Substance/Preparation and of the Company/Undertaking

Product Identifier

Product name ANSULITE 3% AFFF (AFC3B)

Other means of identification

Product code 443091

Synonyms None

Recommended use of the chemical and restrictions on use

Recommended use Fire extinguishing agent

Uses advised against Consumer use

Details of the Supplier of the Safety Data Sheet

Initial Supplier Identifier
Johnson Controls Inc.
Canadian Distribution Centre
20 Delta Park Blvd
Brampton ON L6T 5E7
Telephone: 1-888-688-7638

Emergency Telephone Number

Emergency telephone CHEMTREC 001-800-424-9300 or 001-703-527-3887

2. Hazards Identification

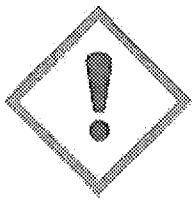
Classification

Serious eye damage/eye irritation	Category 2A

Label Elements

WARNING

Hazard statements
Causes serious eye irritation



Precautionary Statements - Prevention
Wash face, hands and any exposed skin thoroughly after handling
Wear protective gloves/protective clothing/eye protection/face protection

Precautionary Statements - Response

Eyes
IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing
If eye irritation persists: Get medical advice/attention

OTHER INFORMATION

3. Composition/information on Ingredients

Substance

Not Applicable.

Mixture

Chemical name	CAS No.	weight-%	Hazardous Material Information Review Act registry number (HMIRA registry #)	Date HMIRA filed and date exemption granted (if applicable)
2-(2-Butoxyethoxy)ethanol	112-34-5	0 - 10%	-	-
Lauryl Imino Propionate, Sodium Salt	14960-06-6	0 - 10%	-	-
Polyfluorinated alkyl betaine	Trade secret	0 - 10%	-	-

4. First aid measures

Description of first aid measures

General advice Show this safety data sheet to the doctor in attendance.

Inhalation Remove to fresh air.

Eye contact	Rinse immediately with plenty of water, also under the eyelids, for at least 15 minutes. Remove contact lenses, if present and easy to do. Continue rinsing. Keep eye wide open while rinsing. Do not rub affected area. Get medical attention if irritation develops and persists.
Skin contact	Wash skin with soap and water.
Ingestion	Clean mouth with water and drink afterwards plenty of water. Never give anything by mouth to an unconscious person. Do NOT induce vomiting. Call a physician.
Self-protection of the first aider	Avoid contact with skin, eyes or clothing. Wear personal protective clothing (see section 8).

Most Important Symptoms and Effects, Both Acute and Delayed

Symptoms	Burning sensation.

Indication of Any Immediate Medical Attention and Special Treatment Needed

Note to physicians	Treat symptomatically.

5. Fire-fighting measures

Suitable Extinguishing Media	Use extinguishing measures that are appropriate to local circumstances and the surrounding environment.
Unsuitable extinguishing media	Caution: Use of water spray when fighting fire may be inefficient.
Specific hazards arising from the chemical	No information available.
Hazardous Combustion Products	Carbon oxides. Fluorinated oxides. Nitrogen oxides (NOx). Oxides of sulfur.
Explosion Data	
Sensitivity to Mechanical Impact	None.
Sensitivity to Static Discharge	None.
Special protective equipment for fire-fighters	Firefighters should wear self-contained breathing apparatus and full firefighting turnout gear. Use personal protection equipment.

6. Accidental release measures

Personal precautions, protective equipment and emergency procedures

Personal precautions	Avoid contact with skin, eyes or clothing. Use personal protective equipment as required.
Other Information	Refer to protective measures listed in Sections 7 and 8.

Environmental Precautions

Environmental precautions	See Section 12 for additional Ecological Information.

Methods and material for containment and cleaning up

Methods for containment	Prevent further leakage or spillage if safe to do so.
Methods for cleaning up	Pick up and transfer to properly labeled containers.
Prevention of secondary hazards	Clean contaminated objects and areas thoroughly observing environmental regulations.

7. Handling and Storage

Precautions for Safe Handling

Advice on safe handling	Handle in accordance with good industrial hygiene and safety practice. Avoid contact with skin, eyes or clothing. Do not eat, drink or smoke when using this product.

Conditions for safe storage, including any incompatibilities

Storage Conditions	Keep containers tightly closed in a dry, cool and well-ventilated place.

8. Exposure Controls/Personal Protection

Control Parameters

Exposure Limits

Chemical name	Alberta	British Columbia	Ontario TWA	Quebec
2-(2-Butoxyethoxy)ethanol 112-34-5			TWA: 10 ppm	

OTHER INFORMATION None known.

Appropriate Engineering Controls

Engineering controls	Ensure adequate ventilation, especially in confined areas.

individual protection measures, such as personal protective equipment

Eye/face protection	If splashes are likely to occur, wear safety glasses with side-shields.
Hand protection	Wear suitable gloves.
Skin and body protection	Wear suitable protective clothing.
Respiratory protection	No protective equipment is needed under normal use conditions. If exposure limits are exceeded or irritation is experienced, ventilation and evacuation may be required.
General hygiene considerations	Avoid contact with skin, eyes or clothing. Wear suitable gloves and eye/face protection. Do not eat, drink or smoke when using this product.

9. Physical and Chemical Properties

Information on basic physical and chemical properties

Physical State	Liquid
Appearance	No data available
Color	Amber
Odor	Characteristic
Odor Threshold	No data available

Property	Values	Remarks • Method
pH	No data available	No data available
Melting point/freezing point	No data available	No data available
Boiling point / boiling range	100 °C / 212 °F	
Flash Point	No data available	No flash up to boiling point.
Evaporation Rate	No data available	No data available
Flammability (solid, gas)		No data available
Flammability limit in air		No data available
Upper flammability limit:	No data available	
Lower flammability limit:	No data available	
Vapor Pressure	No data available	No data available
Vapor Density	No data available	No data available
Relative Density		No data available
Water Solubility	No data available	No data available
Solubility in Other Solvents	No data available	No data available
Partition coefficient	No data available	No data available
Autoignition Temperature	No data available	No data available
Decomposition Temperature	No data available	No data available
Kinematic viscosity	No data available	No data available
Dynamic viscosity	No data available	No data available
Explosive properties	No data available.	
Oxidizing properties	No data available.	

OTHER INFORMATION

softening point	No data available
Molecular Weight	No data available
VOC content (%)	10.0568
Density	1.01 g/cm3
Bulk Density	No data available

10. Stability and Reactivity

Reactivity	No information available.
Chemical Stability	Stable under normal conditions.
Possibility of hazardous reactions	None under normal processing.
Hazardous Polymerization	Hazardous polymerization does not occur.
Conditions to Avoid	None known based on information supplied.
Incompatible Materials	None known based on information supplied.
Hazardous decomposition products	Carbon oxides. Nitrogen oxides (NOx). Oxides of sulfur. Fluorinated oxides.

11. Toxicological Information

Information on Likely Routes of Exposure

Product Information

Inhalation	Specific test data for the substance or mixture is not available. May cause irritation of respiratory tract.
Eye contact	Specific test data for the substance or mixture is not available. Causes serious eye irritation. (based on components). May cause redness, itching, and pain.
Skin contact	Specific test data for the substance or mixture is not available. May cause irritation. Prolonged contact may cause redness and irritation.
Ingestion	Specific test data for the substance or mixture is not available. Ingestion may cause gastrointestinal irritation, nausea, vomiting and diarrhea.

Information on Toxicological Effects

Symptoms May cause redness and tearing of the eyes.

Numerical Measures of Toxicity

Acute Toxicity

The following values are calculated based on chapter 3.1 of the GHS document .

ATEmix (oral)	25,600.00 mg/kg
ATEmix (dermal)	27,648.00 mg/kg

Component Information

Chemical name	Oral LD50	Dermal LD50	Inhalation LC50
2-(2-Butoxyethoxy)ethanol 112-34-5	= 5660 mg/kg (Rat)	= 2700 mg/kg (Rabbit)	-

Delayed and immediate effects as well as chronic effects from short and long-term exposure

Skin corrosion/irritation	May cause skin irritation.
Serious eye damage/eye irritation	Classification based on data available for ingredients. Irritating to eyes.
Respiratory or skin sensitization	No information available.
Germ cell mutagenicity	No information available.
Carcinogenicity	No information available.
Reproductive toxicity	No information available.
STOT - single exposure	No information available.
STOT - repeated exposure	No information available.

Aspiration hazard No information available.

12. Ecological Information

Ecotoxicity

Concentrate

Method	Biological Test Method: Acute Lethality Test Using Daphnia ssp. (EPS 1/RM/11)
Species	Daphnia magna
Endpoint type	LC50
Effective dose	928 mg/L
Exposure time	48h

Method	Biological Test Method: Acute Lethality Test Using Daphnia ssp. (EPS 1/RM/11)
Species	Daphnia magna
Endpoint type	EC50
Effective dose	790 mg/L
Exposure time	48h

Method	Biological Test Method: Acute Lethality Test Using Rainbow Trout (EPS 1/RM/9)
Species	Oncorhynchus mykiss (rainbow trout)
Endpoint type	LC50
Effective dose	5,320 mg/L
Exposure time	96h

3% Solution

Method	Biological Test Method: Acute Lethality Test Using Daphnia ssp. (EPS 1/RM/11)
Species	Daphnia magna
Endpoint type	LC50
Effective dose	52,830 mg/L
Exposure time	48h

Method	Biological Test Method: Acute Lethality Test Using Daphnia ssp. (EPS 1/RM/11)
Species	Daphnia magna
Endpoint type	EC50
Effective dose	36,990 mg/L
Exposure time	48h

Method	Biological Test Method: Acute Lethality Test Using Rainbow Trout (EPS 1/RM/9)
Species	Oncorhynchus mykiss (rainbow trout)
Endpoint type	LC50
Effective dose	185,200 mg/L
Exposure time	96h

Method	Biological Test Method: Acute Lethality Using Threespine Stickleback (Gasterosteus aculeatus) (EPS 1/RM/10)
Species	Gasterosteus aculeatus
Endpoint type	LC50
Effective dose	80,000 mg/L
Exposure time	96h

Chemical name	Algae/aquatic plants	Fish	Toxicity to	Crustacea

			Microorganisms	
2-(2-Butoxyethoxy)ethanol 112-34-5	EC50 (96h) > 100 mg/L Desmodesmus subspicatus	LC50 (96h) static = 1300 mg/L Lepomis macrochirus	-	EC50 (48h) > 100 mg/L Daphnia magna EC50 (24h) = 2850 mg/L Daphnia magna

Persistence and Degradability

Chemical Oxygen Demand (mg/L)

Concentrate	230,000
3% Solution	7,000

Concentrate Biological Oxygen Demand (mg/L)

Biological Oxygen Demand (5 Day)	<20000
%BOD/COD	6.96
Biological Oxygen Demand (10 Day)	150000
%BOD/COD	65.22
Biological Oxygen Demand (15 Day)	170000
%BOD/COD	73.91
Biological Oxygen Demand (20 Day)	190000
%BOD/COD	82.61

3% Solution Biological Oxygen Demand (mg/L)

Biological Oxygen Demand (5 Day)	390
%BOD/COD	5.57
Biological Oxygen Demand (10 Day)	4600
%BOD/COD	65.71
Biological Oxygen Demand (15 Day)	5000
%BOD/COD	71.43
Biological Oxygen Demand (20 Day)	5200
%BOD/COD	74.29

Bioaccumulation No information available.

Other Adverse Effects No information available.

13. Disposal Considerations

Waste Treatment Methods

Waste from residues/unused products Dispose of in accordance with local regulations. Dispose of waste in accordance with environmental legislation.

Contaminated packaging Do not reuse empty containers.

14. Transport Information

TDG NOT REGULATED

MEX NOT REGULATED

ICAO (air)	NOT REGULATED
IATA	NOT REGULATED
IMDG	NOT REGULATED
RID	NOT REGULATED
ADR	NOT REGULATED
ADN	NOT REGULATED

15. Regulatory Information

REGULATORY INFORMATION

International regulations

Ozone-depleting substances (ODS)	Not Applicable
Persistent Organic Pollutants	Not Applicable
Export Notification requirements	Not Applicable

International Inventories

TSCA	Complies
DSL/NDSL	Complies
ENCS	Complies
IECSC	Complies
KECL	Complies
PICCS	Does not comply
AICS	Complies

Legend:
TSCA - United States Toxic Substances Control Act Section 8(b) Inventory
DSL/NDSL - Canadian Domestic Substances List/Non-Domestic Substances List
ENCS - Japan Existing and New Chemical Substances
IECSC - China Inventory of Existing Chemical Substances
KECL - Korean Existing and Evaluated Chemical Substances
PICCS - Philippines Inventory of Chemicals and Chemical Substances
AICS - Australian Inventory of Chemical Substances

16. Other information, including date of preparation of the last revision

NFPA	Health Hazards 1	Flammability 0	Instability 0	Physical and chemical properties -
HMIS	Health Hazards 1	Flammability 0	Physical Hazards 0	Personal Protection X

Revision date 21-May-2018
Revision note SDS sections updated, 12.
Disclaimer
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relates only to the specific material designated and may not be valid for such material used in combination with any other materials or in any process, unless specified in the text.

End of Safety Data Sheet